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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,466	06/07/2001	Takashi Akiyama	010729	6376

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EXAMINER

PERALTA, GINETTE

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,466

Applicant(s)

AKIYAMA ET AL.

Examiner

Ginette Peralta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Arikawa et al. (U. S. Pat. 6,519,209 B1).

Arikawa et al. discloses in Fig. 16 a liquid crystal display device that comprises a liquid crystal cell 3 comprised of a first substrate and a second substrate, each transparent, disposed with a predetermined spacing so as to oppose each other, and a liquid crystal layer sealed in a gap formed there between, capable of exerting optical changes on incident light by applying a voltage to the liquid crystal layer; a first polarizer 2 installed on an outer side of the first substrate disposed on a visible side of the liquid crystal cell; a second polarizer 4 installed on an outer side of the second substrate disposed on a side of the liquid crystal cell, opposite from the visible side thereof; an auxiliary light source 6 disposed on a side of the second polarizer 4, opposite from the liquid crystal cell 3, wherein the first polarizer 2 is a polarizer allowing a first linearly polarized light component to pass therethrough, the second polarizer 4 is a

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polarizer reflecting a second linearly polarized light component while allowing a third linearly polarized light component vibrating in a direction orthogonal to a direction of vibration of the second linearly polarized light component to pass therethrough, a third polarizer 5 allowing a fourth linearly polarized light component to pass therethrough is disposed between the second polarizer and the auxiliary light source, and an intersecting angle formed by the direction of vibration of the third linearly polarized light component and that of the fourth linearly polarized light component is in the range of minus 45° and plus 45° as the two components are perpendicular to each other.

Regarding the limitations that the third polarizer is a reflection type polarizer that reflects a fifth linearly polarized light component while allowing a fourth linearly polarized light component, Arikawa et al. discloses that the third polarizer is a reflection type polarizer.

Regarding the limitation that the auxiliary light source is a backlight device making use of either a cold cathode tube, a light emitting diode, or an electroluminescent device, Arikawa et al. discloses in col. 11, ll. 45-47, that the light source 6 is a backlight device making use of a cold cathode tube, a light emitting diode, or an electroluminescent device.

Arikawa et al. further teaches that the third polarizer may be bonded to the second polarizer, or fixedly attached to the auxiliary light source or a constituting member thereof, that an optical scattering layer 92 is installed at any suitable position on a visible side of the second polarizer.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 2 and 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arikawa et al. (U. S. Pat. 6,519,209 B1) in view of Ouderkirk et al. (WO 97/01788).

Arikawa et al. discloses in Fig. 16 a liquid crystal display device that comprises a liquid crystal cell 3 comprised of a first substrate and a second substrate, each transparent, disposed with a predetermined spacing so as to oppose each other, and a liquid crystal layer sealed in a gap formed there between, capable of exerting optical changes on incident light by applying a voltage to the liquid crystal layer; a first polarizer 2 installed on an outer side of the first substrate disposed on a visible side of the liquid crystal cell; a second polarizer 4 installed on an outer side of the second substrate disposed on a side of the liquid crystal cell, opposite from the visible side thereof; an auxiliary light source 6 disposed on a side of the second polarizer 4, opposite from the liquid crystal cell 3, wherein the first polarizer 2 is a polarizer allowing a first linearly polarized light component to pass therethrough, the second polarizer 4 is a polarizer reflecting a second linearly polarized light component while allowing a third

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linearly polarized light component vibrating in a direction orthogonal to a direction of vibration of the second linearly polarized light component to pass therethrough, a third polarizer 5 allowing a fourth linearly polarized light component to pass therethrough is disposed between the second polarizer and the auxiliary light source, and an intersecting angle formed by the direction of vibration of the third linearly polarized light component and that of the fourth linearly polarized light component is in the range of minus 45° and plus 45° as the two components are perpendicular to each other.

Arikawa et al. discloses the claimed invention with the exception of the third polarizer being an absorption type polarizer, and an optical semi-absorption layer being disposed between the second polarizer and the third polarizer, between the third polarizer and the auxiliary light source or between constituents of the auxiliary light source.

Ouderkirk et al. discloses in fig. 16 a liquid crystal display that comprises a liquid crystal cell, a first polarizer 10, a second polarizer 13, and an optical semi-absorption layer 16 disposed between the second polarizer and the auxiliary light source 15, wherein the optical semi-absorption layer 16 is used for the disclosed intended purpose of optimizing viewability under ambient lighting conditions while not significantly affecting display appearance under backlighting conditions.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have an optical semi-absorption layer in the structure of Arikawa et al. as although Arikawa et al. maximizes the use of the light components,

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the optical semi-absorption layer would optimize viewability under ambient lighting conditions while not significantly affecting display appearance under backlighting conditions as disclosed by Ouderkirk et al.. Furthermore, as Ouderkirk et al. discloses the third polarizer can be an absorption type polarizer for the same disclosed intended purpose.

Regarding the limitations that the third polarizer is a reflection type polarizer that reflects a fifth linearly polarized light component while allowing a fourth linearly polarized light component, Arikawa et al. discloses that the third polarizer is a reflection type polarizer.

Regarding the limitation that the auxiliary light source is a backlight device making use of either a cold cathode tube, a light emitting diode, or an electroluminescent device, Arikawa et al. discloses in col. 11, ll. 45-47, that the light source 6 is a backlight device making use of a cold cathode tube, a light emitting diode, or an electroluminescent device.

Arikawa et al. further teaches that the third polarizer may be bonded to the second polarizer, or fixedly attached to the auxiliary light source or a constituting member thereof, that an optical scattering layer 92 is installed at any suitable position on a visible side of the second polarizer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ginette Peralta whose telephone number is (703)305-7722. The examiner can normally be reached on Monday to Friday 8:00 AM- 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703)308-4918. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

GP



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